AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for separating particles in a compartment of a fluidic microsystem, comprising the steps:

continuously moving through the compartment a liquid in which particles are suspended with a predetermined direction of flow,

generating a deflecting potential wherein: (a) at least a part of the particles is moved relative to the liquid in a direction of deflection, and (b) the deflecting potential is formed by a direct voltage field under whose action the particles are drawn by electrophoresis to at least one of a plurality of lateral walls of the compartment,

generating at least one focusing potential, so that at least a part of the particles is moved opposite to the direction of deflection relative to the liquid by dielectrophoresis under an effect of high-frequency electrical fields, and

guiding particles with different electrical, magnetic or geometric properties into different flow areas in the liquid, to thereby separate the particles by combined exertion of the deflecting potential and the at least one focusing potential during the continuous moving of the liquid including the suspended particles.

2. (Previously Presented) The method according to claim 1, wherein the direction of deflection deviates from the direction of flow and comprises a component transverse to the direction of flow.

3. (Previously Presented) The method according to claim 2, wherein the direction of deflection runs perpendicularly to the direction of flow toward at least one of the plurality of lateral walls of the compartment, and the flow areas comprise flow paths corresponding to different potential minima formed for the particular particles by superposing of the deflecting and focusing potentials during passage through the compartment in a temporal average.

4. (Cancelled).

5. (Previously Presented) The method according to claim 1, wherein the particles comprise biological cells of which at least a part is lysed under action of the direct voltage field.

6. (Previously Presented) The method according to claim 3, wherein the liquid comprises a suspension of biological material containing biological cells and cell components and whereby a separation of the biological cells from the cell components takes place under action of a direct voltage field.

7. (Previously Presented) The method according to claim 1, wherein electrodes are arranged on walls of the compartment, said electrodes being loaded with electrical fields for generating the dielectrophoresis and the electrophoresis.

8. (Previously Presented) The method according to claim 1, wherein the deflecting and focusing potentials are generated alternating in time in at least one section of the compartment or geometrically alternating in different successive sections of the compartment.

9. (Previously Presented) The method according to claim 6, wherein the electrical fields comprise high-frequency alternating voltage components and direct voltage components generated simultaneously or alternately.

10. (Previously Presented) The method according to claim 7, wherein a plurality of focusing potentials is generated with an electrode array between two electrodes and wherein the particles are guided onto different flow paths in accordance with electrical or geometric properties of the particles.

11. (Previously Presented) The method according to claim 2, wherein the particles are guided onto at least two separate flow paths.

12. (Previously Presented) The method according to claim 11, wherein the at least two flow paths empty into other, separate compartments of the microsystem.

13. (Previously Presented) The method according to claim 12, wherein the at least two flow paths empty into separate compartments of the microsystem separated by compartment walls or electric barriers.

14. (Previously Presented) The method according to claim 1, wherein the direction of deflection runs parallel to the direction of flow and several focusing potentials are generated that are asymmetrically modulated in parallel with the direction of deflection and wherein the particles run through the deflecting potential at different speeds.

15. (Previously Presented) The method according to claim 1, wherein the particles flow in front of the electrodes on a dielectrophoretic or hydrodynamic sequencing element.

16. (Previously Presented) The method according to claim 1, wherein a pH gradient is generated in the channel.

17. (Previously Presented) The method according to claim 16, wherein the pH gradient is generated by electrical direct voltage fields provided for electrophoretic separation of the particles.

18. (Previously Presented) The method according to claim 1, wherein a detection of the particles takes place after the guiding of the particles onto the different flow paths.

19. (Previously Presented) The method according to claim 1, wherein the deflecting and the focusing potentials are formed by several superposed alternating voltages with different frequencies.

20. (Previously Presented) The method according to claim 1, wherein at least two deflecting potentials with different directions of deflection are generated.

21. (Withdrawn) A fluidic microsystem comprising:

at least one compartment, through which a liquid with particles is adapted to flow through in a predetermined direction of flow,

a first separating device for generating a deflecting potential and for moving the particles in a direction of deflection, and

a second separating device with electrodes for generating at least one focusing potential so that the particles are moved by dielectrophoresis opposite to the direction of deflection.

22. (Withdrawn) The microsystem according to claim 21, wherein the direction of deflection deviates from the direction of flow.

23. (Withdrawn) The microsystem according to claim 21, wherein the first separating device is arranged for generating electrical, magnetic, optical and/or mechanical forces.

24. (Withdrawn) The microsystem according to claim 23, wherein the first separating device comprises electrophoresis electrodes, a magnetic field device, a laser or an ultrasound source.

25. (Withdrawn) The microsystem according to claim 21, wherein the first and the second separating devices are arranged separately in different, successive sections of the at least one compartment.

26. (Withdrawn) The microsystem according to claim 21, wherein the first and the second separating devices form a common deflection unit comprising the electrodes.

27. (Withdrawn) The microsystem according to claim 26, wherein the common deflection unit can be alternately controlled in time with alternating and direct voltages.

28. (Withdrawn) The microsystem according to claim 24, wherein an electrode array comprising electrode strips is arranged between the electrophoresis electrodes, said strips being individually controllable with high-frequency alternating voltages.

29. (Withdrawn) The microsystem according to claim 21, wherein the direction of deflection runs parallel to the direction of flow.

30. (Withdrawn) The microsystem according to claim 21, wherein the electrodes are arranged on inner sides of walls of the compartment.

31. (Withdrawn) The microsystem according to claim 21, wherein the compartment empties into separate compartments of the microsystem.

32. (Withdrawn) The microsystem according to claim 31, wherein the compartments of the microsystem are separated by compartment walls or electrical barriers.

33. (Withdrawn) The microsystem according to claim 21, wherein a dielectrophoretic or hydrodynamic aligning element is arranged in front of the separating devices.